

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the Application.

1 to 25. (Canceled)

26. (Currently Amended) A method for repairing a defect area at the gradient junction of cartilaginous tissue and bony tissue, comprising:

providing a composite scaffold with a porous ~~ceramic phase including a~~ discrete ceramic layer, a porous ~~polymer phase including a~~ discrete polymer layer, and an interface region attaching the discrete ceramic layer to the discrete polymer layer, ~~the polymer phase attached to the ceramic phase at an interphase region where~~ in the interface region, a portion of the polymer phase layer is at least partially infused into a portion of the ceramic phase layer mechanically interlocking the ceramic and polymer phases ~~layers, with the porosity of the ceramic and polymer phases communicating; the~~ interphase interface region being situated between the discrete ceramic layer of the porous ~~ceramic phase~~ and the discrete polymer layer of the porous ~~polymer phase~~;

boring a receptacle space in the gradient junction at the site of the injury to receive the scaffold, the gradient junction being that of articular cartilage; and

placing and securing the scaffold in the receptacle space with the ceramic phase layer adjacent to the bony tissue and the polymer phase layer adjacent to the cartilaginous tissue.

27. (Currently Amended) A method for repairing a defect area at the gradient junction of cartilaginous tissue and bony tissue, comprising:

providing a composite scaffold with a porous ~~ceramic phase including a~~ discrete ceramic layer, a porous ~~polymer phase including a~~ discrete polymer layer, and an interface region attaching the discrete ceramic layer to the discrete polymer layer, ~~the polymer phase attached to the ceramic phase at an interphase region where in the~~ interface region, a portion of the polymer phase layer is at least partially infused into a portion of the ceramic phase layer mechanically interlocking the ceramic and polymer phases layers, ~~with the porosity of the ceramic and polymer phases communicating; the~~ interphase interface region being situated between the discrete ceramic layer of the porous ceramic phase and the discrete polymer layer of the porous polymer phase;

boring a receptacle space in the gradient junction at the site of the injury to receive the scaffold, the gradient junction being that of a spinal disc; and

placing and securing the scaffold in the receptacle space with the ceramic phase layer adjacent to the bony tissue and the polymer phase layer adjacent to the cartilaginous tissue.

28. (Currently Amended) A method for repairing a defect area at the gradient junction of cartilaginous tissue and bony tissue, comprising:

providing a composite scaffold with a porous ~~ceramic phase including a~~ discrete ceramic layer, a porous ~~polymer phase including a~~ discrete polymer layer, and an interface region attaching the discrete ceramic layer to the discrete polymer layer, ~~the polymer phase attached to the ceramic phase at an interphase region where in the~~ interface region, a portion of the polymer phase layer is at least partially infused into a

~~portion of the ceramic phase layer~~ mechanically interlocking the ceramic and polymer phases ~~layers~~, with the porosity of the ceramic and polymer phases communicating; the interphase interface region being situated between the discrete ceramic layer of the porous ceramic phase and the discrete polymer layer of the porous polymer phase;

boring a receptacle space in the gradient junction at the site of the injury to receive the scaffold, the gradient junction being that of the meniscus; and

placing and securing the scaffold in the receptacle space with the ceramic phase layer adjacent to the bony tissue and the polymer phase layer adjacent to the cartilaginous tissue.

29. (Currently Amended) The method of Claim 26, wherein the polymer phase layer comprises a polymer foam.

30. (Currently Amended) The method of Claim 26, wherein the polymer phase layer is made from foaming by lyophilization.

31. (Currently Amended) The method of Claim 27, wherein the polymer phase layer is made from foaming by lyophilization.

32. (Currently Amended) The method of Claim 28, wherein the polymer phase layer is made from foaming by lyophilization.

33. (Currently Amended) The method of Claim 26, wherein the discrete ceramic layer of the porous ceramic phase is positioned on the top of the interphase interface region,

and wherein the discrete polymer layer ~~of the porous polymer phase~~ is positioned on the bottom of the ~~interphase~~ interface region.

34. (Currently Amended) The method of Claim 33, wherein the discrete polymer layer of ~~the porous polymer phase~~ is positioned on only one side of the ~~interphase~~ interface region.

35. (Currently Amended) The method of Claim 27, wherein the discrete ceramic layer of ~~the porous ceramic phase~~ is positioned on the top of the ~~interphase~~ interface region, and wherein the discrete polymer layer ~~of the porous polymer phase~~ is positioned on the bottom of the ~~interphase~~ interface region.

36. (Currently Amended) The method of Claim 35, wherein the discrete polymer layer of ~~the porous polymer phase~~ is positioned on only one side of the ~~interphase~~ interface region.

37. (Currently Amended) The method of Claim 28, wherein the discrete ceramic layer of ~~the porous ceramic phase~~ is positioned on the top of the ~~interphase~~ interface region, and wherein the discrete polymer layer ~~of the porous polymer phase~~ is positioned on the bottom of the ~~interphase~~ interface region.

38. (Currently Amended) The method of Claim 37, wherein the discrete polymer layer of ~~the porous polymer phase~~ is positioned on only one side of the ~~interphase~~ interface region.

39. (Currently Amended) The method of Claim 26, wherein the porous ceramic phase layer has a first plurality of pores, the porous polymer phase layer has a second plurality of pores, the first plurality of pores being larger than the second plurality of pores.

40. (Currently Amended) The method of Claim 27, wherein the porous ceramic phase layer has a first plurality of pores, the porous polymer phase layer has a second plurality of pores, the first plurality of pores being larger than the second plurality of pores.

41. (Currently Amended) The method of Claim 28, wherein the porous ceramic phase layer has a first plurality of pores, the porous polymer phase layer has a second plurality of pores, the first plurality of pores being larger than the second plurality of pores.

42. (Currently Amended) The method of Claim 26, wherein the interphase interface region is formed by permitting a polymer solution to at least partially infuse into pores of a porous ceramic body, and foaming the polymer solution to produce a polymer foam thereby forming the porous polymer phase layer, the polymer phase layer interlocking with the ceramic body where the polymer solution was permitted to infuse into the ceramic body.

43. (Currently Amended) The method of Claim 27, wherein the interphase interface region is formed by permitting a polymer solution to at least partially infuse into pores of a porous ceramic body, and foaming the polymer solution to produce a polymer foam thereby forming the porous polymer phase layer, the polymer phase layer interlocking

with the ceramic body where the polymer solution was permitted to infuse into the ceramic body.

44. (Currently Amended) The method of Claim 28, wherein the ~~interphase~~ interface region is formed by permitting a polymer solution to at least partially infuse into pores of a porous ceramic body, and foaming the polymer solution to produce a polymer foam thereby forming the porous polymer phase layer, the polymer phase layer interlocking with the ceramic body where the polymer solution was permitted to infuse into the ceramic body.

45. (New) The method of Claim 26, wherein the interface region exhibits a gradual transition between the ceramic and polymer layers.